

# Section C

## Highway

Table 2-17

## Motor Vehicle Safety Data

	1960	1965	1970	1975	1980	1985	1990	1995	1996	1997	1998	1999
<b>Fatalities</b>	36,399	47,089	52,627	44,525	51,091	43,825	44,599	41,817	42,065	42,013	41,501	41,611
<b>Injured persons</b>	N	N	N	N	N	N	3,231,000	3,465,000	<sup>R</sup> 3,483,000	3,348,000	3,192,000	3,236,000
<b>Crashes</b>	N	N	N	N	N	N	6,471,000	6,699,000	<sup>R</sup> 6,770,000	6,624,000	<sup>R</sup> 6,335,000	6,279,000
<b>Vehicle-miles (billions)</b>	719	888	1,110	1,328	1,527	1,775	2,144	2,423	2,486	<sup>R</sup> 2,562	<sup>R</sup> 2,632	2,691
<b>Rates per 100 million vehicle-miles</b>												
Fatalities	5.1	5.3	4.7	3.4	3.3	2.5	2.1	1.7	1.7	1.6	<sup>R</sup> 1.6	1.5
Injured persons	N	N	N	N	N	N	151	143	140	<sup>R</sup> 131	<sup>R</sup> 122	120
Crashes	N	N	N	N	N	N	302	277	272	<sup>R</sup> 259	<sup>R</sup> 241	233

## SOURCES:

**Fatalities:** 1960-70: Estimated by U.S. Department of Transportation, National Highway Traffic Safety Administration from data supplied by U.S. Department of Health and Human Services, National Center for Health Statistics, and individual state accident reports (adjusted to 30-day deaths). Fatalities data prior to 1975 have been adjusted to reflect the Fatality Analysis Reporting System's definition of a fatal crash as one that involves a motor vehicle on a trafficway, which results in the death of a vehicle occupant or a nonmotorist within 30 days of the crash.

1975-1998: U.S. Department of Transportation, National Highway Traffic Safety Administration, *Traffic Safety Facts 1998*, DOT HS 808 983 (Washington, DC: October 1999), table 2.

1999: Ibid., National Center for Statistics and Analysis, Fatality Analysis Reporting System (FARS) Database and General Estimates System Database, personal communication, Sept. 8, 2000.

**Injured persons:** Ibid.

**Crashes:** Ibid., table 1.

**Vehicle-miles:** 1960-65: U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics Summary to 1995*, FHWA-PL-97-009 (Washington, DC: July 1997), table VM-201A.

1970-98: Ibid., *Highway Statistics* (Washington, DC: Annual issues), table VM-1.

1999: Ibid., *Early Assessment of 1999 Crashes, Injuries, and Fatalities* (Washington, DC: 2000).

**Fatality and injury rates:** 1960-98: U.S. Department of Transportation, National Highway Traffic Safety Administration, *Traffic Safety Facts 1998 DOT HS 808 983* (Washington, DC: October 1999), table 2.

1999: Calculated by U.S. Department of Transportation, Bureau of Transportation Statistics.

**Crash rates:** Calculated by U.S. Department of Transportation, Bureau of Transportation Statistics.

KEY: N = data do not exist; R = revised

**Table 2-18****Motor Vehicle Fatalities, Vehicle-Miles, and Associated Rates by Highway Functional System**

	1980	1985	1990	1995	1996	1997	1998
<b>Fatalities</b>							
<b>Rural</b>	<b>29,545</b>	<b>24,492</b>	<b>25,786</b>	<b>23,978</b>	<b>24,510</b>	<b>24,811</b>	<b>24,751</b>
Interstate	2,263	2,141	2,707	2,675	2,905	3,040	3,105
Other arterial	12,268	9,940	9,893	9,947	9,458	9,678	9,594
Collector	10,004	8,209	8,852	7,401	7,481	7,643	7,593
Local	5,010	4,202	4,334	3,955	4,666	4,450	4,459
<b>Urban</b>	<b>21,546</b>	<b>19,333</b>	<b>18,813</b>	<b>17,839</b>	<b>17,555</b>	<b>16,758</b>	<b>16,143</b>
Interstate	2,184	2,025	2,252	2,154	2,323	2,292	2,283
Other arterial	12,752	12,521	11,742	10,916	10,756	10,239	9,902
Collector	2,226	1,696	1,427	1,441	1,290	1,163	1,037
Local	4,384	3,091	3,392	3,328	3,186	3,064	2,921
<b>VMT (millions)</b>							
<b>Rural</b>	<b>672,030</b>	<b>730,728</b>	<b>868,878</b>	<b>933,289</b>	<b>960,194</b>	<b>1,001,350</b>	<b>1,033,457</b>
Interstate	135,084	154,357	200,173	223,382	232,565	240,255	251,520
Other arterial	262,774	282,803	330,866	368,595	378,847	392,058	403,484
Collector	189,468	206,669	240,460	236,148	241,030	254,364	257,858
Local	84,704	86,899	97,379	105,164	107,752	114,673	120,595
<b>Urban</b>	<b>855,265</b>	<b>1,044,098</b>	<b>1,275,484</b>	<b>1,489,534</b>	<b>1,523,886</b>	<b>1,560,345</b>	<b>1,598,065</b>
Interstate	161,242	216,188	278,901	341,528	351,579	361,401	374,622
Other arterial	484,189	578,270	699,233	815,170	834,623	846,659	862,994
Collector	83,043	89,578	106,297	126,929	129,310	130,143	131,919
Local	126,791	160,062	191,053	205,907	208,374	222,142	228,530

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**Table 2-18**

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**Motor Vehicle Fatalities, Vehicle-Miles, and Associated Rates by Highway Functional System**

	1980	1985	1990	1995	1996	1997	1998
<b>Fatality rates per 100 million vehicle miles</b>							
<b>Rural</b>	<b>4.40</b>	<b>3.35</b>	<b>2.97</b>	<b>2.57</b>	<b>2.55</b>	<b>2.48</b>	<b>2.39</b>
Interstate	1.68	1.39	1.35	1.20	1.25	1.27	1.23
Other arterial	4.67	3.51	2.99	2.70	2.50	2.47	2.38
Collector	5.28	3.97	3.68	3.13	3.10	3.00	2.94
Local	5.91	4.84	4.45	3.76	4.33	3.88	3.70
<b>Urban</b>	<b>2.52</b>	<b>1.85</b>	<b>1.47</b>	<b>1.20</b>	<b>1.15</b>	<b>1.07</b>	<b>1.01</b>
Interstate	1.35	0.94	0.81	0.63	0.66	0.63	0.61
Other arterial	2.63	2.17	1.68	1.34	1.29	1.21	1.15
Collector	2.68	1.89	1.34	1.14	1.00	0.89	0.79
Local	3.46	1.93	1.78	1.62	1.53	1.38	1.28

**NOTES:** Includes the 50 states and the District of Columbia. Fatality figures reflect original figures received by FHWA from NHTSA, and, when totaled, differ slightly from the revised NHTSA figures that appear in other tables in this volume. VMT data are based on revised estimates from state highway agencies for the various functional systems and, when totaled, differ from the figures in the vehicle-miles table in chapter 1, which have not been revised by FHWA as of Oct. 25, 2000.

**SOURCES:**

**Fatalities:** 1980-95: U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics Summary to 1995*, Internet site [www.fhwa.dot.gov/ohim/ohimstat.htm](http://www.fhwa.dot.gov/ohim/ohimstat.htm), as of Oct. 25, 2000.

1996-97: Ibid., *Highway Statistics*, Internet site [www.fhwa.dot.gov/ohim/ohimstat.htm](http://www.fhwa.dot.gov/ohim/ohimstat.htm), as of Oct. 25, 2000, table FI-1.

1998: Ibid., table FI-20.

**Vehicle miles:** 1980-94: U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics Summary to 1995*, FHWA-PL-97-009 (Washington, DC: July 1997), table VM-202.

1995-98: Ibid., *Highway Statistics*, Internet site [www.fhwa.dot.gov/ohim/ohimstat.htm](http://www.fhwa.dot.gov/ohim/ohimstat.htm), as of Oct. 25, 2000, tables VM-2 and VM-2a.

**Fatality rates:** Calculated by the U.S. Department of Transportation, Bureau of Transportation Statistics.

**Table 2-19** Occupant Fatalities by Vehicle Type and Nonoccupant Fatalities

	1975	1980	1985	1990	1995	1996	1997	1998 <sup>R</sup>	1999
<b>Occupant fatalities by vehicle type</b>									
<b>Passenger car</b>									
Subcompact <sup>a</sup>	3,834	7,299	7,993	8,309	6,791	6,618	6,220	5,514	4,930
Compact	614	927	2,635	5,310	6,899	7,288	7,195	6,804	6,967
Intermediate	1,869	3,878	4,391	4,849	4,666	4,670	4,794	4,617	4,743
Full <sup>b</sup>	10,800	11,580	6,586	4,635	3,413	3,417	3,481	3,106	2,908
Unknown	8,812	3,765	1,607	989	654	512	509	1,153	1,270
<b>Total</b>	<b>25,929</b>	<b>27,449</b>	<b>23,212</b>	<b>24,092</b>	<b>22,423</b>	<b>22,505</b>	<b>22,199</b>	<b>21,194</b>	<b>20,818</b>
<b>Truck<sup>c</sup></b>									
Light	4,856	7,486	6,689	8,601	9,568	9,932	10,249	10,705	11,243
Large	961	1,262	977	705	648	621	723	742	758
<b>Total</b>	<b>5,817</b>	<b>8,748</b>	<b>7,666</b>	<b>9,306</b>	<b>10,216</b>	<b>10,553</b>	<b>10,972</b>	<b>11,447</b>	<b>12,001</b>
<b>Other vehicles</b>									
Motorcycle	3,189	5,144	4,564	3,244	2,227	2,161	2,116	2,294	2,472
Bus	53	46	57	32	33	21	18	38	58
Other/unknown vehicle type	937	540	544	460	392	455	420	409	457
<b>Total</b>	<b>4,179</b>	<b>5,730</b>	<b>5,165</b>	<b>3,736</b>	<b>2,652</b>	<b>2,637</b>	<b>2,554</b>	<b>2,741</b>	<b>2,987</b>
<b>TOTAL vehicle occupant fatalities</b>	<b>35,925</b>	<b>41,927</b>	<b>36,043</b>	<b>37,134</b>	<b>35,291</b>	<b>35,695</b>	<b>34,725</b>	<b>35,382</b>	<b>35,806</b>
<b>Nonoccupant fatalities</b>									
Pedestrian	7,516	8,070	6,808	6,482	5,584	5,449	5,321	5,228	4,906
Pedalcyclist	1,003	965	890	859	833	765	814	760	750
Other	81	129	84	124	109	154	153	131	149
<b>Total nonoccupant fatalities</b>	<b>8,600</b>	<b>9,164</b>	<b>7,782</b>	<b>7,465</b>	<b>6,526</b>	<b>6,368</b>	<b>6,288</b>	<b>6,119</b>	<b>5,805</b>
<b>TOTAL traffic fatalities</b>	<b>44,525</b>	<b>51,091</b>	<b>43,825</b>	<b>44,599</b>	<b>41,817</b>	<sup>d</sup> <b>42,065</b>	<b>42,013</b>	<b>41,501</b>	<b>41,611</b>

<sup>a</sup> Includes minicompact cars (wheelbase under 95 inches) and subcompact cars (wheelbase between 95 and 99 inches).

<sup>b</sup> Includes cars with a wheelbase of 110 inches or greater.

<sup>c</sup> See table 2-23 for definitions of light and large trucks.

<sup>d</sup> Includes 2 fatalities that could not be assigned to a category above.

**SOURCE:** U.S. Department of Transportation, National Highway Traffic Safety Administration, *Traffic Safety Facts 1998*, DOT HS 808 983 (Washington, DC: October 1999), table 4, and personal communication, Sept. 11, 2000.

**Breakout of passenger car types:** Ibid., National Center for Statistics and Analysis, Fatality Analysis Reporting System Database, 1998.

KEY: R = revised

Table 2-20

## Occupant and Non-Motorist Fatalities in Crashes by Number of Vehicles and Alcohol Involvement

	1985		1990		1991		1992		1993		1994	
	Fatal	AI	Fatal	AI	Fatal	AI	Fatal	AI	Fatal	AI	Fatal	AI
<b>Total Fatalities</b>	<b>43,825</b>	<b>22,715</b>	<b>44,599</b>	<b>22,085</b>	<b>41,508</b>	<b>19,887</b>	<b>39,250</b>	<b>17,859</b>	<b>40,150</b>	<b>17,473</b>	<b>40,716</b>	<b>16,580</b>
<b>Occupants</b>	<b>36,043</b>	<b>18,791</b>	<b>37,134</b>	<b>18,442</b>	<b>34,740</b>	<b>16,588</b>	<b>32,880</b>	<b>14,814</b>	<b>33,574</b>	<b>14,404</b>	<b>34,318</b>	<b>13,746</b>
Single-vehicle crashes	17,130	10,706	18,159	11,000	17,280	10,086	15,958	8,844	15,932	8,564	15,997	8,084
Two-vehicle crashes	16,467	7,065	16,262	6,429	15,025	5,674	14,449	5,116	15,161	4,998	15,664	4,889
More than two-vehicle crashes	2,446	1,021	2,713	1,013	2,435	828	2,473	854	2,481	842	2,657	773
<b>Non-motorists</b>	<b>7,782</b>	<b>3,924</b>	<b>7,465</b>	<b>3,643</b>	<b>6,768</b>	<b>3,299</b>	<b>6,370</b>	<b>3,045</b>	<b>6,576</b>	<b>3,069</b>	<b>6,398</b>	<b>2,834</b>
Pedestrians	6,808	3,584	6,482	3,258	5,801	2,933	5,549	2,756	5,649	2,741	5,489	2,541
Single-vehicle crashes	6,342	3,297	5,990	2,971	5,302	2,643	5,099	2,494	5,180	2,477	5,027	2,286
Multiple-vehicle crashes	466	287	492	287	499	290	450	261	469	263	462	254
Pedalcyclists	890	303	859	332	843	319	723	250	816	295	802	266
Single-vehicle crashes	864	291	832	319	815	310	690	234	792	280	781	258
Multiple-vehicle crashes	26	12	27	13	28	9	33	15	24	16	21	8
Others/unknown	84	37	124	53	124	47	98	39	111	33	107	27
	1995		1996		1997		1998		1999			
	Fatal	AI	Fatal	AI	Fatal	AI	Fatal	AI	Fatal	AI		
<b>Total Fatalities</b>	<b>41,817</b>	<b>17,247</b>	<b>42,065</b>	<b>17,217</b>	<b>42,013</b>	<b>16,190</b>	<b>41,501</b>	<b>16,020</b>	<b>41,611</b>	<b>15,786</b>		
<b>Occupants</b>	<b>35,291</b>	<b>14,280</b>	<b>35,695</b>	<b>14,264</b>	<b>35,725</b>	<b>13,483</b>	<b>35,382</b>	<b>13,281</b>	<b>35,806</b>	<b>13,145</b>		
Single-vehicle crashes	16,732	8,643	16,723	8,572	16,529	8,032	16,666	8,153	17,052	8,163		
Two-vehicle crashes	15,744	4,794	15,935	4,813	16,218	4,637	15,742	4,363	15,690	4,204		
More than two-vehicle crashes	2,815	843	3,037	878	2,978	814	2,974	766	3,064	778		
<b>Non-motorists</b>	<b>6,526</b>	<b>2,967</b>	<b>6,370</b>	<b>2,953</b>	<b>6,288</b>	<b>2,707</b>	<b>6,119</b>	<b>2,739</b>	<b>5,805</b>	<b>2,642</b>		
Pedestrians	5,584	2,627	5,449	2,615	5,321	2,384	5,228	2,429	4,906	2,325		
Single-vehicle crashes	5,111	2,395	5,024	2,389	4,876	2,151	4,801	2,203	4,488	2,090		
Multiple-vehicle crashes	474	232	425	227	445	233	427	226	418	235		
Pedalcyclists	833	303	765	278	814	268	760	263	750	286		
Single-vehicle crashes	807	292	739	268	788	259	736	254	714	267		
Multiple-vehicle crashes	26	11	26	11	26	8	24	9	36	19		
Others/unknown	<b>109</b>	<b>37</b>	<b>156</b>	<b>60</b>	<b>153</b>	<b>55</b>	<b>131</b>	<b>47</b>	<b>149</b>	<b>31</b>		

**NOTE:** Alcohol involvement pertains to either or both drivers in two-vehicle crashes and in the case of pedestrians or pedalcyclists killed in single-vehicle crashes, either the motor vehicle driver and/or the pedestrian or pedalcyclist. Alcohol results are determined from positive blood alcohol concentration (BAC) tests and police-reported alcohol involvement.

**SOURCE:** U.S. Department of Transportation, National Highway Traffic Safety Administration, National Center for Statistics and Analysis, Fatality Analysis Reporting System (FARS) Database query, Internet site <http://www-fars.nhtsa.dot.gov/www/query.html>, as of July 27, 2000.

KEY: AI = Alcohol involvement; Fatal = Fatalities

**Table 2-21** Passenger Car Occupant Safety Data

	1975	1980	1985	1990	1995	1996	1997	1998	1999
<b>Fatalities</b>	25,929	27,449	23,212	24,092	22,423	22,505	22,199	<sup>R</sup> 21,194	20,818
<b>Injured persons</b>	N	N	N	2,376,000	2,469,000	2,458,000	2,341,000	2,201,000	2,138,000
<b>Crashes</b>	N	N	N	5,560,000	5,523,000	5,599,000	5,537,000	5,146,000	4,916,000
<b>Vehicle-miles (billions)</b>	1,030	1,107	1,249	1,427	1,478	1,499	1,528	1,552	1,567
<b>Rates per 100 million vehicle-miles</b>									
Fatalities	2.5	2.5	1.9	1.7	1.5	1.5	1.4	1.4	1.3
Injured persons	N	N	N	167	167	164	153	141	136
Crashes	N	N	N	390	374	<sup>R</sup> 373	<sup>R</sup> 362	331	313

**NOTES:** The injury and crash data in this table are from the U.S. Department of Transportation (USDOT), National Highway Traffic Safety Administration's (NHTSA) General Estimates System (GES). The data from GES, which began operation in 1988, are obtained from a nationally representative probability sample selected from all police-reported crashes. The GES sample includes only crashes where a police accident report was completed and the crash resulted in property damage, injury, or death. The resulting figures do not take into account crashes that were not reported to the police or that did not result in property damage. The 1993 *National Transportation Statistics (NTS) Historical Compendium* and earlier editions illustrated crashes and injury figures estimated by the National Safety Council, which used a different set of methods to arrive at its figures. Thus, the injury and crash figures in this edition of NTS may not be comparable with those found in earlier editions. USDOT, Bureau of Transportation Statistics rounded vehicle-miles to the nearest billion. Vehicle-miles in this table and in table 2-23 are taken from NHTSA revised data and are not based exclusively on USDOT, Federal Highway Administration (FHWA) data. The change was made to reflect the different vehicle classification schemes used by FHWA and NHTSA. Thus, vehicle-miles for passenger cars, and light and large trucks in this table and table 2-23 should not be compared with vehicle-miles in chapter 1, which are taken directly from FHWA.

**SOURCES:**

**Fatalities, injuries, vehicle miles, fatality and injury rates:** U.S. Department of Transportation, National Highway Traffic Safety Administration, *Traffic Safety Facts 1998*, DOT HS 808 983 (Washington, DC: October 1999), table 7 and personal communication, Sept. 11, 2000.

**Crashes:** U.S. Department of Transportation, National Highway Traffic Safety Administration, National Center for Statistics and Analysis, Fatality Analysis Reporting System Database and General Estimates System Database, 1998.

**Crash rates:** Calculated by U.S. Department of Transportation, Bureau of Transportation Statistics by dividing the number of crashes by the vehicle-miles traveled.

KEY: N = data do not exist; R = revised

**Table 2-22** Motorcycle Rider Safety Data

	1990	1991	1992	1993	1994	1995	1996	1997	1998 <sup>R</sup>	1999
<b>Fatalities</b>	3,244	2,806	2,395	2,449	2,320	2,227	2,161	2,116	2,294	2,472
<b>Injured persons</b>	84,000	80,000	65,000	59,000	57,000	57,000	55,000	53,000	49,000	50,000
<b>Crashes</b>	103,000	106,000	72,000	72,000	67,000	63,000	66,000	61,000	54,000	57,000
<b>Vehicle-miles (billions)</b>	9.6	9.2	9.6	9.9	10.2	9.8	9.9	10.1	10.3	10.6
<b>Rates per 100 million vehicle-miles<sup>a</sup></b>										
Fatalities	34	31	25	25	23	23	22	21	22	23
Injured persons	882	876	681	600	561	587	562	534	476	472
Crashes <sup>R</sup>	1,078	1,155	753	727	654	643	675	604	524	538

<sup>a</sup> U.S. Department of Transportation (USDOT), National Highway Traffic Safety Administration (NHTSA) rounds its injury and crash data to the nearest thousand before publishing them, but it calculates injury rates using the unrounded data. NHTSA also calculates fatality and injury rates using vehicle-miles expressed to a higher level of precision than shown here. USDOT, Bureau of Transportation Statistics rounded vehicle-miles to the nearest 100 million in this table.

**NOTE:** The injury and crash data in this table are from NHTSA's General Estimates System (GES). The data from the GES, which began operation in 1988, are obtained from a nationally representative probability sample selected from all police-reported crashes. The GES sample includes only crashes where a police accident report was completed and the crash resulted in property damage, injury, or death. The resulting figures do not take into account crashes that were not reported to the police or that did not result in property damage. The 1993 *National Transportation Statistics* (NTS) *Historical Compendium* and earlier editions illustrated crashes and injury

figures estimated

by the National Safety Council, which used a different set of methods to arrive at its figures. Thus, the injury and crash figures in this edition of NTS may not be comparable with those found in the *Compendium* and earlier editions.

#### SOURCES:

**Fatalities, injuries, and vehicle-miles:** U.S. Department of Transportation, National Highway Traffic Safety Administration, National Center for Statistics and Analysis, *Traffic Safety Facts 1998*, DOT HS 808 983 (Washington, DC: October, 1999), table 10, and personal communication, Sept. 11, 2000.

**Crashes:** Fatality Analysis Reporting System and General Estimates System, personal communications, Feb. 2, 1999, and Sept. 11, 2000.

KEY: R = revised; U = data are not available



**Table 2-23** Truck Occupant Safety Data

	1975	1980	1985	1990	1995	1996	1997	1998 <sup>R</sup>	1999
<b>Fatalities</b>									
Light	4,856	7,486	6,689	8,601	9,568	9,932	10,249	10,705	11,243
Large	961	1,262	977	705	648	621	723	742	758
<b>Total</b>	<b>5,817</b>	<b>8,748</b>	<b>7,666</b>	<b>9,306</b>	<b>10,216</b>	<b>10,553</b>	<b>10,972</b>	<b>11,447</b>	<b>12,001</b>
<b>Injured persons</b>									
Light	N	N	N	505,000	722,000	761,000	755,000	763,000	847,000
Large	N	N	N	42,000	30,000	33,000	31,000	29,000	33,000
<b>Total</b>	<b>N</b>	<b>N</b>	<b>N</b>	<b>547,000</b>	<b>752,000</b>	<b>794,000</b>	<b>786,000</b>	<b>792,000</b>	<b>880,000</b>
<b>Crashes</b>									
Light	N	N	N	2,152,000	2,709,000	2,881,000	2,901,000	2,866,000	3,080,000
Large	N	N	N	372,000	362,000	378,000	421,000	392,000	452,000
<b>Total</b>	<b>N</b>	<b>N</b>	<b>N</b>	<b>2,524,000</b>	<b>3,071,000</b>	<b>3,175,000</b>	<b>3,225,000</b>	<b>3,258,000</b>	<b>3,532,000</b>
<b>Vehicle-miles (billions)</b>									
Light	204	295	389	556	750	787	824	860	U
Large	81	108	124	146	178	183	191	196	U
<b>Rates per 100 million vehicle-miles</b>									
<b>Fatalities</b>									
Light	2.4	2.5	1.7	1.5	1.3	1.3	1.2	1.2	1.2
Large	1.2	1.2	0.8	0.5	0.4	0.3	0.4	0.4	0.4
<b>Injured persons</b>									
Light	N	N	N	91	96	98	93	89	94
Large	N	N	N	29	17	18	16	15	17
<b>Crashes</b>									
Light	N	N	N	387	361	366	352	333	U
Large	N	N	N	255	203	207	220	200	U

KEY: N = data do not exist; R = revised;  
U = data are not available

*Continued next page*

**Table 2-23**  
Cont'd

## Truck Occupant Safety Data

**NOTES:** Large trucks—trucks over 10,000 pounds gross vehicle weight rating, including single-unit trucks and truck tractors. Light trucks—trucks of 10,000 pounds gross vehicle weight rating or less, including pickups, vans, truck-based stationwagons, and utility vehicles. The injury and crash data in this table are from the U.S. Department of Transportation (USDOT), National Highway Traffic Safety Administration's (NHTSA) General Estimates System (GES). The data from GES, which began operation in 1988, are obtained from a nationally representative probability sample selected from all police-reported crashes. The GES sample includes only crashes where a police accident report was completed and the crash resulted in property damage, injury, or death. The resulting figures do not take into account crashes that were not reported to the police or that did not result in property damage. The 1993 *National Transportation Statistics (NTS) Historical Compendium* and earlier editions illustrated crashes and injury figures estimated by the National Safety Council, which used a different set of methods to arrive at its figures. Thus, the injury and crash figures in this edition of NTS may not be comparable with those found in the *Compendium* and earlier editions.

USDOT, Bureau of Transportation Statistics rounded vehicle-miles to the nearest billion.

Vehicle-miles in this table and in table 3-19 are taken from NHTSA revised data and are not based exclusively on USDOT, Federal Highway Administration (FHWA) data, as they

have been in earlier reports. The change was made to reflect the different vehicle classification schemes used by FHWA and NHTSA. Thus, vehicle-miles for passenger cars and light and large trucks in table 3-19 and this table should not be compared with vehicle-miles in Chapter 1, which are taken directly from FHWA.

### SOURCES:

**Fatalities, injuries, vehicle-miles, fatality and injury rates:** U.S. Department of Transportation, National Highway Traffic Safety Administration, *Traffic Safety Facts 1998*, DOT HS 808 983 (Washington, DC: October 1999), tables 8 and 9, and personal communication, Sept. 11, 2000.

**Crashes:** Ibid., National Center for Statistics and Analysis, Fatality Analysis Reporting System Database and General Estimates System Database, 1998, and personal communication, Sept. 11, 2000.

**Crash rates:** Calculated by the U.S. Department of Transportation, Bureau of Transportation Statistics.

**Table 2-24** Bus Occupant Safety Data<sup>a</sup>

	1975	1980	1985	1990	1995	1996	1997	1998 <sup>R</sup>	1999
<b>Fatalities</b>	<b>53</b>	<b>46</b>	<b>57</b>	<b>32</b>	<b>33</b>	<b>21</b>	<b>18</b>	<b>38</b>	<b>58</b>
<b>Injured persons</b>	<b>N</b>	<b>N</b>	<b>N</b>	<b>33,000</b>	<b>19,000</b>	<b>20,000</b>	<b>17,000</b>	<b>16,000</b>	<b>22,000</b>
<b>Crashes</b>	<b>N</b>	<b>N</b>	<b>N</b>	<b>60,000</b>	<b>58,000</b>	<b>57,000</b>	<sup>R</sup> <b>54,000</b>	<b>53,000</b>	<b>63,000</b>
<b>Vehicle-miles (billions)</b>	<b>6.1</b>	<b>6.1</b>	<b>4.5</b>	<b>5.7</b>	<b>6.4</b>	<b>6.5</b>	<b>6.8</b>	<b>7.0</b>	<b>7.4</b>
<b>Rates per 100 million vehicle-miles<sup>b</sup></b>									
Fatalities	0.9	0.8	1.3	0.6	0.5	0.3	0.3	0.5	0.8
Injured persons	N	N	N	576	298	305	<sup>R</sup> 250	229	297
Crashes	N	N	N	1,048	909	869	<sup>R</sup> 794	757	851

<sup>a</sup> Bus includes school, transit, and intercity buses.

KEY: N = data do not exist; R = revised

<sup>b</sup> The U.S. Department of Transportation (USDOT), National Highway Traffic Safety Administration (NHTSA) rounds its injury and crash data to the nearest thousand, but injury and crash rates are calculated using the unrounded data. NHTSA also calculates fatality, injury, and crash rates using vehicle-miles expressed to a higher level of precision than shown here. Thus, injury and crash rates shown in this table may differ slightly from the rates that would be calculated from the data in this table. USDOT, Bureau of Transportation Statistics has rounded vehicle-miles to the nearest 100 million in this table.

**NOTES:** The injury and crash data in this table are from the U.S. Department of Transportation (USDOT), National Highway Traffic Safety Administration's (NHTSA) General Estimates System (GES). The data from GES, which began operation in 1988, are obtained from a nationally representative probability sample selected from all police-reported crashes. The GES sample includes only crashes where a police accident report was completed and the crash resulted in property damage, injury, or death. The resulting figures do not take into account crashes that were not reported to the police or that did not result in property damage. The 1993 *National Transportation Statistics (NTS) Historical*

*Compendium* and earlier editions illustrated crashes and injury figures estimated by the National Safety Council, which used a different set of methods to arrive at its figures. Thus, the injury and crash figures in this edition of NTS may not be comparable with those found in the *Compendium* and earlier editions.

#### SOURCES:

**Fatalities and injuries:** 1975-99: U.S. Department of Transportation, National Highway Traffic Safety Administration, *Traffic Safety Facts 1998* DOT HS 808 983 (Washington, DC: October 1999), tables 4 and 51, and personal communication, Sept. 11, 2000.

**Crashes:** 1990-98: Ibid., General Estimates System Database, personal communications.

**Vehicle-miles:** 1975-90: U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics Summary to 1995* (Washington, DC: July 1997), table VM-201A.

1995-98: Ibid., *Highway Statistics* (Washington, DC: Annual issues), table VM-1.

Table 2-25

## Fatalities by Highest Blood Alcohol Concentration (BAC) in Highway Crashes

	1985	1990	1991	1992	1993	1994	1995	1996	1997	1998 <sup>R</sup>	1999
<b>Total fatalities</b>	<b>43,825</b>	<b>44,599</b>	<b>41,508</b>	<b>39,250</b>	<b>40,150</b>	<b>40,716</b>	<b>41,817</b>	<b>42,065</b>	<b>42,013</b>	<b>41,501</b>	<b>41,611</b>
<b>Fatalities in alcohol-related crashes</b>	<b>22,716</b>	<b>22,084</b>	<b>19,887</b>	<b>17,858</b>	<b>17,473</b>	<b>16,580</b>	<b>17,247</b>	<b>17,218</b>	<b>16,189</b>	<b>16,020</b>	<b>15,786</b>
Percent	51.8	49.5	47.9	45.5	43.5	40.7	41.2	40.9	38.5	38.6	37.9
<b>BAC = 0.00</b>											
Number	21,109	22,515	21,621	21,392	22,677	24,136	24,570	24,847	25,824	25,481	25,825
Percent	48.2	50.5	52.1	54.5	56.5	59.3	58.8	59.1	61.5	61.4	62.1
<b>BAC = 0.01-0.09</b>											
Number	4,604	4,434	3,957	3,625	3,496	3,480	3,746	3,774	3,480	3,526	3,466
Percent	10.5	9.9	9.5	9.2	8.7	8.5	9.0	9.0	8.3	8.5	8.3
<b>BAC = 0.10+</b>											
Number	18,111	17,650	15,930	14,234	13,977	13,100	13,501	13,444	12,710	12,494	12,321
Percent	41.3	39.6	38.4	36.3	34.8	32.2	32.3	32.0	30.3	30.1	29.6

**NOTES:** BAC values have been assigned by U.S. Department of Transportation, National Highway Traffic Safety Administration when alcohol test results are unknown. Alcohol-related crashes pertain to the BAC of the driver and nonoccupants struck by motor vehicles.

For some years, numbers may not add to totals due to rounding.

**SOURCE:** U.S. Department of Transportation, National Highway Traffic Safety Administration, National Center for Statistics and Analysis, *Traffic Safety Facts 1998*, DOT HS 808 983 (Washington, DC: October 1999), table 13, and personal communication, Sept. 11, 2000.

**KEY:** BAC = blood alcohol concentration; R = revised

**Table 2-26****Number of States with Different Types of Anti-DUI/DWI Legislation in Effect as of January 1 of the Listed Year**

	1986	1990	1992	1994	1996	1997	1998	1999	2000
BAC = 0.08 per se laws <sup>a</sup>	2	4	5	10	13	13	15	16	<sup>c</sup> 18
BAC level 0.02 or less for persons younger than 21 years	0	0	3	12	<sup>c</sup> 28	<sup>c</sup> 38	<sup>c</sup> 51	<sup>c</sup> 51	<sup>c</sup> 51
Administrative license revocation (ALR) for DUI/DWI offenders <sup>b</sup>	<sup>c</sup> 21	<sup>c</sup> 27	<sup>c</sup> 30	<sup>c</sup> 33	<sup>c</sup> 38	<sup>c</sup> 40	<sup>c</sup> 41	<sup>c</sup> 41	<sup>c</sup> 41

<sup>a</sup> Per se law makes it illegal in and of itself to drive with an alcohol concentration measured at or above a certain level.

<sup>b</sup> Those states that have thresholds for administrative license revocation (ALR) above those for DUI/DWI are not included in this total. New York, which limits the duration of ALR, is also not included. States that impose additional thresholds for ALR beyond those imposed for DUI/DWI are not included in these figures.

<sup>c</sup> Includes the District of Columbia.

**NOTE:** National Uniform Minimum Drinking Age Act, which standardized the minimum drinking age at 21, was enacted in 1984.

**SOURCES:**

**0.02 BAC and Administrative license revocation:** 1986-98: U.S. Department of Transportation, National Highway Traffic Safety

KEY: BAC = blood alcohol concentration;  
DUI = driving under the influence;  
DWI = driving while intoxicated

Administration, Traffic Safety Programs, Research and Evaluation Division, personal communications, Apr. 9, 1999 and Oct. 4, 1999. 1999-2000: Ibid., Impaired Driving Division, personal communications, May 22, 2000.

0.08 BAC: Ibid., Presidential Initiative for Making 0.08 BAC the National Legal Limit, A Progress Report, Internet site <http://www.nhtsa.dot.gov/people/injury/alcohol/limit.08/08progressreport/index.html>, as of May 19, 2000.

Table 2-27

## Motor Vehicle Fatal Crashes by Day of Week, Time of Day, and Weather and Light Conditions (percent)

	1990	1991	1992	1993	1994	1995 <sup>R</sup>	1996	1997	1998	1999
<b>Fatal crashes</b>	<b>39,836</b>	<b>36,937</b>	<b>34,942</b>	<b>35,780</b>	<b>36,254</b>	<b>37,241</b>	<sup>R</sup> <b>37,494</b>	<sup>R</sup> <b>37,324</b>	<b>37,107</b>	<b>37,043</b>
<b>Day of week</b>										
Sunday	16.1	16.2	15.9	15.8	15.9	15.7	15.2	15.8	15.5	15.8
Monday	11.7	11.5	11.6	12.1	12.4	12.4	12.7	12.1	12.4	12.6
Tuesday	11.5	11.5	11.5	11.8	11.7	11.8	12.4	<sup>R</sup> 11.9	12.4	11.9
Wednesday	11.5	11.9	12.3	12.0	12.3	11.9	12.2	13.0	12.4	12.5
Thursday	12.5	12.5	13.2	13.0	12.7	13.0	13.3	13.0	<sup>R</sup> 13.5	12.9
Friday	16.6	16.5	16.1	16.3	16.3	16.6	16.1	16.1	15.8	15.9
Saturday	19.9	19.9	19.3	19.0	<sup>R</sup> 18.6	18.5	18.1	18.0	18.0	18.5
Unknown	0.02	0.03	0.01	0.02	<sup>R</sup> 0.04	0.03	0.04	0.05	0.04	0.02
<b>Time of day</b>										
Midnight to 3 a.m.	15.7	15.3	14.3	<sup>R</sup> 13.8	13.1	12.8	<sup>R</sup> 12.6	12.2	12.3	12.2
3 a.m. to 6 a.m.	7.7	7.9	7.4	<sup>R</sup> 7.3	7.3	7.5	7.4	7.2	7.3	7.8
6 a.m. to 9 a.m.	8.6	8.6	8.5	8.9	9.3	9.2	9.5	9.9	9.7	10.1
9 a.m. to noon	8.4	8.6	8.8	9.7	9.6	9.4	9.7	9.9	10.2	10.0
Noon to 3 p.m.	11.5	0.0	12.4	12.5	13.1	12.9	12.7	13.3	13.4	13.2
3 p.m. to 6 p.m.	15.6	15.7	16.0	16.0	16.6	16.8	16.9	16.6	16.8	16.8
6 p.m. to 9 p.m.	15.5	15.6	16.5	16.2	15.7	15.9	15.7	15.9	15.6	15.4
9 p.m. to midnight	15.9	15.8	15.3	14.7	14.3	14.6	14.6	14.1	13.8	13.8
Unknown	0.8	0.8	0.8	0.8	0.8	0.9	0.9	0.9	0.9	0.9
<b>Atmospheric condition</b>										
Normal	86.7	86.7	85.6	<sup>R</sup> 87.0	<sup>R</sup> 87.3	86.4	86.3	<sup>R</sup> 86.4	<sup>R</sup> 87.2	89.0
Rain	9.3	9.0	10.0	8.7	8.3	8.5	8.4	<sup>R</sup> 8.8	8.8	7.3
Snow/sleet	1.6	1.9	2.0	2.2	1.8	2.4	2.7	2.5	<sup>R</sup> 1.7	1.6
Other/unknown	2.3	2.4	2.3	<sup>R</sup> 2.1	<sup>R</sup> 2.5	2.6	2.6	<sup>R</sup> 2.3	<sup>R</sup> 2.3	2.1
<b>Light condition</b>										
Daylight	45.0	45.4	46.0	47.7	<sup>R</sup> 49.5	<sup>R</sup> 48.7	49.3	<sup>R</sup> 50.3	<sup>R</sup> 50.5	50.7
Dark, but lighted	17.7	17.4	17.4	<sup>R</sup> 16.4	15.6	15.8	15.9	<sup>R</sup> 15.6	<sup>R</sup> 14.9	14.9
Dark	32.7	33.0	32.4	<sup>R</sup> 31.5	<sup>R</sup> 30.3	<sup>R</sup> 30.3	30.3	<sup>R</sup> 29.5	30.0	29.7
Dawn or dusk	4.2	3.9	3.9	4.2	<sup>R</sup> 4.2	<sup>R</sup> 4.2	<sup>R</sup> 4.2	4.2	4.3	4.3
Unknown	0.3	0.3	0.3	<sup>R</sup> 0.2	<sup>R</sup> 0.2	<sup>R</sup> 0.4	0.3	1.0	<sup>R</sup> 0.3	0.3

**SOURCE:** U.S. Department of Transportation, National Highway Traffic Safety Administration, *Traffic Safety Facts* (Washington, DC: Annual issues), tables 24 and 25 and personal communication, Sept. 11, 2000.

KEY: R = revised

**Table 2-28** Motor Vehicle Fatal Crashes by Posted Speed Limit

	1975	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997	1998
Under 55 mph												
0-25 mph <sup>a</sup>	2,617	2,865	2,504	2,234	2,097	1,911	1,895	1,890	1,893	1,896	1,955	1,873
26-35 mph	6,099	8,527	7,889	7,756	6,908	6,696	6,759	6,565	6,681	6,445	6,383	6,025
36-45 mph	4,276	6,256	6,813	7,092	6,608	6,345	6,454	6,632	6,938	7,096	7,132	7,349
46-54 mph	2,241	2,431	2,072	2,054	1,894	1,875	1,877	1,861	1,927	1,908	1,788	1,771
<b>Total</b>	<b>15,233</b>	<b>20,079</b>	<b>19,278</b>	<b>19,136</b>	<b>17,507</b>	<b>16,827</b>	<b>16,985</b>	<b>16,948</b>	<b>17,439</b>	<b>17,345</b>	<b>17,258</b>	<b>17,018</b>
55 mph and above												
55 mph	16,094	20,352	18,862	17,556	16,543	15,444	15,980	16,512	16,753	14,097	12,897	12,522
60 mph	N	N	N	18	9	4	9	13	16	523	935	1,073
65 mph	N	N	N	2,175	2,078	2,002	2,155	2,173	2,323	3,214	3,311	3,421
70 mph	N	N	N	0	0	0	0	0	38	1,282	1,633	1,835
Over 70 mph	N	N	N	0	0	0	0	0	10	344	475	482
<b>Total</b>	<b>16,094</b>	<b>20,352</b>	<b>18,862</b>	<b>19,749</b>	<b>18,630</b>	<b>17,450</b>	<b>18,144</b>	<b>18,698</b>	<b>19,140</b>	<b>19,460</b>	<b>19,251</b>	<b>19,333</b>
<b>Unknown, total</b>	<b>7,834</b>	<b>4,853</b>	<b>1,055</b>	<b>951</b>	<b>800</b>	<b>665</b>	<b>651</b>	<b>608</b>	<b>662</b>	<b>689</b>	<b>815</b>	<b>756</b>
<b>TOTAL fatal crashes</b>	<b>39,161</b>	<b>45,284</b>	<b>39,195</b>	<b>39,836</b>	<b>36,937</b>	<b>34,942</b>	<b>35,780</b>	<b>36,254</b>	<b>37,241</b>	<b>37,494</b>	<b>37,324</b>	<b>37,107</b>

<sup>a</sup> The "No Statutory Limit" speed limit designation is included in this category.

**NOTES:** In 1974, Congress enacted a national maximum speed limit of 55 miles per hour (mph). Amendments in 1987 and 1991 allowed states to increase speed limits to 65 mph on rural Interstates and similar highways. The National Maximum Speed Limit was repealed in late 1995; speed limits are again set by the states, some of which have raised their maximum speed limits to 70 mph or above.

**SOURCES:** 1975-93: U.S. Department of Transportation, National Highway Traffic Safety Administration, National Center for Statistics and Analysis, Fatality Analysis Reporting System, personal communications, Oct. 22, 1996, February 1999, and Oct. 4, 1999.

1994-98: Ibid., Internet data query from Internet site <http://www-fars.nhtsa.dot.gov/www/query.html>, as of June 13, 2000.

KEY: N = data do not exist

**Table 2-29**     **Safety Belt and  
Motorcycle Helmet Use**

	1994	1996	1998
<b>OVERALL BELT USE</b>	<b>58.0%</b>	<b>61.3%</b>	<b>68.9%</b>
Drivers	59.1%	62.2%	70.1%
Passengers	55.2%	58.8%	65.3%
<b>Passenger cars</b>	<b>62.8%</b>	<b>64.4%</b>	<b>71.3%</b>
Drivers	64.2%	65.1%	72.4%
Passengers	59.1%	62.3%	68.1%
<b>Light trucks<sup>a</sup></b>	<b>50.2%</b>	<b>56.4%</b>	<b>65.7%</b>
Drivers	50.7%	57.5%	67.1%
Passengers	49.1%	53.0%	61.4%
<b>Helmet Use<sup>b</sup></b>	<b>62.5%</b>	<b>64.1%</b>	<b>67.2%</b>
Operators	67.1%	65.5%	64.4%
Riders	54.4%	58.0%	84.4%

<sup>a</sup> Includes pickup trucks, vans, minivans, and sport utility vehicles.

<sup>b</sup> In 1994, operators and riders were counted as helmeted if wearing any type of helmet. In 1996 and 1998, only those operators and riders wearing safety helmets that met U.S. Department of Transportation (DOT) standards were counted. Those safety helmets that do not meet DOT standards were treated as if the operator/rider were not wearing a helmet.

**NOTE:** Occupants of commercial and emergency vehicles are excluded.

**SOURCE:** U.S. Department of Transportation, National Highway Traffic Safety Administration, *Research Note*, Observed Safety Belt Use in 1999, (Washington, DC: September 1999), Internet site-<http://www.nhtsa.dot.gov/people/ncsa/98obbelt.html> as of Apr. 6, 2000, table 3. Data are from the National Occupant Protection Use Survey (NOPUS), Moving Traffic Study, 1994, 1996, and 1998.



**Table 2-30** Estimated Number of Lives Saved by Use of Restraints

	1975	1980	1985	1990	1995	1996	1997	1998	Total 1975-1998
<b>Safety belts<sup>a</sup></b>	<b>978</b>	<b>575</b>	<b>2,435</b>	<b>6,592</b>	<b>9,790</b>	<b>10,414</b>	<b>10,750</b>	<b>11,018</b>	<b>112,016</b>
<b>Air bags</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>37</b>	<b>470</b>	<b>686</b>	<b>842</b>	<b>1,043</b>	<b>3,706</b>
<b>Motorcycle Helmets</b>	<b>823</b>	<b>871</b>	<b>788</b>	<b>602</b>	<b>506</b>	<b>490</b>	<b>486</b>	<b>500</b>	<b>16,605</b>
<b>Age 21 minimum legal drinking age</b>	<b>412</b>	<b>595</b>	<b>701</b>	<b>1,033</b>	<b>851</b>	<b>846</b>	<b>846</b>	<b>861</b>	<b>18,220</b>
<b>Child restraints</b>	<b>36</b>	<b>49</b>	<b>153</b>	<b>222</b>	<b>279</b>	<b>365</b>	<b>312</b>	<b>299</b>	<b>4,193</b>
<b>Safety seats</b>	<b>33</b>	<b>39</b>	<b>135</b>	<b>193</b>	<b>232</b>	<b>313</b>	<b>266</b>	<b>244</b>	<b>3,559</b>
<b>Adult safety belts<sup>b</sup></b>	<b>3</b>	<b>10</b>	<b>18</b>	<b>29</b>	<b>47</b>	<b>52</b>	<b>46</b>	<b>55</b>	<b>634</b>

<sup>a</sup> Represents all adults and children age 5 and older. Data are for passenger vehicles, which include cars, light trucks, vans, pickups, and utility vehicles. Excludes medium and heavy trucks.

<sup>b</sup> Represents children age 4 and younger restrained only by adult safety belts.

**SOURCE:** Computed by U.S. Department of Transportation, National Highway Traffic Safety Administration, personal communication, Apr. 5, 2000.